



PTO/SB/21 (09-04)

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FORM**

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Total Number of Pages in This Submission

Application Number	10/071,903
Filing Date	February 8, 2002
First Named Inventor	Kim et al.
Art Unit	2616
Examiner Name	Thai D. Hoang
Attorney Docket Number	I-2-0176.2US

**ENCLOSURES (Check all that apply)**

<input checked="" type="checkbox"/> Fee Transmittal Form <input type="checkbox"/> Fee Attached <input type="checkbox"/> Amendment/Reply <input type="checkbox"/> After Final <input type="checkbox"/> Affidavits/declaration(s) <input type="checkbox"/> Extension of Time Request <input type="checkbox"/> Express Abandonment Request <input type="checkbox"/> Information Disclosure Statement  <input type="checkbox"/> Certified Copy of Priority Document(s) <input type="checkbox"/> Reply to Missing Parts/ Incomplete Application <input type="checkbox"/> Reply to Missing Parts under 37 CFR 1.52 or 1.53	<input type="checkbox"/> Drawing(s) <input type="checkbox"/> Licensing-related Papers  <input type="checkbox"/> Petition <input type="checkbox"/> Petition to Convert to a Provisional Application <input type="checkbox"/> Power of Attorney, Revocation Change of Correspondence Address <input type="checkbox"/> Terminal Disclaimer <input type="checkbox"/> Request for Refund <input type="checkbox"/> CD, Number of CD(s) _____ <input type="checkbox"/> Landscape Table on CD	<input type="checkbox"/> After Allowance Communication to TC <input type="checkbox"/> Appeal Communication to Board of Appeals and Interferences <input type="checkbox"/> Appeal Communication to TC (Appeal Notice, Brief, Reply Brief) <input type="checkbox"/> Proprietary Information <input type="checkbox"/> Status Letter <input checked="" type="checkbox"/> Other Enclosure(s) (please identify below): <b>Appeal Brief to the Board of Patent Appeals and Interferences Pursuant to C.F.R. §41.37(c).</b>
<b>Remarks</b>		

**SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT**

Firm Name	VOLPE AND KOENIG, P.C.		
Signature			
Printed name	Thomas A. Mattioli		
Date	November 20, 2006	Reg. No.	56,773

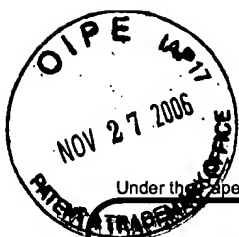
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This collection of information is required by 37 CFR 1.5. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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PTO/SB/17 (01-06)

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# FEE TRANSMITTAL

## For FY 2006

☐ Applicant claims small entity status. See 37 CFR 1.27

TOTAL AMOUNT OF PAYMENT (\$) 500.00

**Complete if Known**

Application Number	10/071,903
Filing Date	February 8, 2002
First Named Inventor	Kim et al.
Examiner Name	Thai D. Hoang
Art Unit	2616
Attorney Docket No.	I-2-0176.2US

**METHOD OF PAYMENT** (check all that apply)☐ Check ☐ Credit Card ☐ Money Order ☐ None ☐ Other (please identify): \_\_\_\_\_☒ Deposit Account Deposit Account Number: 09-0435 Deposit Account Name: InterDigital Communications Corporation

For the above-identified deposit account, the Director is hereby authorized to: (check all that apply)

☒ Charge fee(s) indicated below ☐ Charge fee(s) indicated below, except for the filing fee☒ Charge any additional fee(s) or underpayments of fee(s) under 37 CFR 1.16 and 1.17 ☒ Credit any overpayments

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**FEE CALCULATION** (All the fees below are due upon filing or may be subject to a surcharge.)**1. BASIC FILING, SEARCH, AND EXAMINATION FEES**

Application Type	FILING FEES		SEARCH FEES		EXAMINATION FEES		Fees Paid (\$)
	Fee (\$)	Small Entity Fee (\$)	Fee (\$)	Small Entity Fee (\$)	Fee (\$)	Small Entity Fee (\$)	
Utility	300	150	500	250	200	100	
Design	200	100	100	50	130	65	
Plant	200	100	300	150	160	80	
Reissue	300	150	500	250	600	300	
Provisional	200	100	0	0	0	0	

**2. EXCESS CLAIM FEES****Fee Description**

	Fee (\$)	Small Entity Fee (\$)
Each claim over 20 (including Reissues)	50	25
Each independent claim over 3 (including Reissues)	200	100
Multiple dependent claims	360	180

<b>Total Claims</b>	<b>Extra Claims</b>	<b>Fee (\$)</b>	<b>Fee Paid (\$)</b>	<b>Multiple Dependent Claims</b>
-	=	x	=	0

HP = highest number of total claims paid for, if greater than 20.

<b>Indep. Claims</b>	<b>Extra Claims</b>	<b>Fee (\$)</b>	<b>Fee Paid (\$)</b>	
-	=	x	=	0

HP = highest number of independent claims paid for, if greater than 3.

**3. APPLICATION SIZE FEE**

If the specification and drawings exceed 100 sheets of paper (excluding electronically filed sequence or computer listings under 37 CFR 1.52(e)), the application size fee due is \$250 (\$125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).

<b>Total Sheets</b>	<b>Extra Sheets</b>	<b>Number of each additional 50 or fraction thereof</b>	<b>Fee (\$)</b>	<b>Fee Paid (\$)</b>
-	-	-	-	-

- 100 = / 50 = (round up to a whole number) x =

**4. OTHER FEE(S)**

Non-English Specification, \$130 fee (no small entity discount)

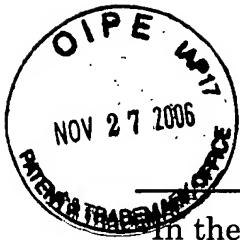
Other (e.g., late filing surcharge): Appeal Brief to the Board of Patent Appeals and Interferences 500.00

**SUBMITTED BY**

Signature	<i>Thomas A. Mattioli</i>	Registration No. (Attorney/Agent)	56,773	Telephone	215-568-6400
Name (Print/Type)	Thomas A. Mattioli			Date	November 20, 2006

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**PATENT**

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In the **PATENT APPLICATION** of:

Kim et al.

**Application No.:** 10/071,903

**Confirmation No.:** 3606

**Filed:** February 8, 2002

**For:** SIMPLE BLOCK SPACE TIME  
TRANSMIT DIVERSITY USING  
MULTIPLE SPREADING CODES

**Group:** 2616

**Examiner:** Thai D. Hoang

**Our File:** I-2-0176.2US

**Date:** November 20, 2006

**APPEAL BRIEF TO THE BOARD OF PATENT APPEALS  
AND INTERFERENCES PURSUANT TO C.F.R. §41.37(c)**

Mail Stop Appeal Brief -Patents  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

Further to the September 20, 2006 Notice of Appeal, the Appellant hereby submits this Appeal Brief.

11/27/2006 CNEG1 00000036 090435 10071903  
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**(1) REAL PARTY IN INTEREST**

In this Appeal, the real party in interest is the assignee of record, InterDigital Technology Corporation.

**(2) RELATED APPEALS AND INTERFERENCES**

A notice of appeal was filed contemporaneously in related Application No. 10/071,917. An appeal brief will be filed on or about the same day as the present appeal brief. Appellant and the undersigned representative do not know of any other appeal, interference, or judicial proceeding that is related to, directly affects, is directly affected by, or has a bearing on decision of the Board of Patent Appeals and Interferences (hereinafter the "Board" or the "Board of Appeals") in this Appeal.

**(3) STATUS OF THE CLAIMS**

Claims 1-4, 13 and 14 are rejected. Claims 1-4, 13 and 14 are the subject of this Appeal and are attached in the Claims Appendix. No other claims are pending.

**(4) STATUS OF THE AMENDMENTS**

Appellant filed a Reply on July 20, 2006, pursuant to 37 C.F.R. §1.116, subsequent to the final rejection mailed April 20, 2006 arguing the allowability of pending Claims 1-4, 13 and 14. The Appellant also objected to the finality of the April 20, 2006 rejection. However, the Appellant made no amendments to the pending claims in the aforementioned Reply. On August 21, 2006, an Advisory Action issued indicating that the July 20, 2006 Reply was not considered in the Examiner's opinion to place the application in condition for allowance.

## **(5) SUMMARY OF CLAIMED SUBJECT MATTER**

### **Independent Claim 1**

Claim 1 is directed to a method for a base station to transmit a data field of symbols (see page 4, paragraph [00023], and Figures 2 and 3). The method generates a first data field of symbols and encodes the first data field producing a second data field having complex conjugates of the symbols of the first data field (see page 4, paragraph [00023], lines 3-9). The first data field is spread using a first channelization code and the second data field is spread using a second channelization code (see page 4, paragraph [00024], lines 3-5, and step 306 in Figure 3). Each channelization code is uniquely associated with one of a first and second antennas (see step 306 in Figure 3 and page 5, from line 6 of paragraph [00030] to page 6, line 1 of paragraph [00030]). An RF signal including the first and second spread data fields is transmitted over a first and second antenna (see step 308 of Figure 3 and page 6, lines 2-3 of paragraph [00030]).

### **Dependent Claim 2**

Claim 2 is directed toward the method of Claim 1, further including the scrambling of the first and second spread data fields by a scrambling code associated with the base station (see step 307 of Figure 3 and page 6, lines 1-2 of paragraph [00030]).

### **Dependent Claim 3**

Claim 3 is directed toward the method of Claim 2 wherein the symbols of the first data field of symbols are grouped into a first and second sub-data field (see step 302 of Figure 3 and page 5, paragraph [00030] lines 2-3).

**Dependent Claim 4**

Claim 4 is directed toward the method of Claim 3 wherein the symbols of the second data field of symbols are grouped into a third and fourth sub-data field (see step 302 of Figure 3 and page 5, paragraph [00030] lines 2-3). The third sub-data field is the negative complex conjugate of said second sub-data field and said fourth sub-data field is the complex conjugate of said first sub-data field (see page 4, paragraph [00023], lines 7-10).

**Independent Claim 13**

Claim 13 is directed to a method for a base station to transmit a data field of symbols including a transmitter (see page 6, paragraph [00033], and Figures 5 and 6). The method generates a first data field of symbols (see page 6, paragraph [00033], lines 1-4). The first data field is spread using a first channelization code to produce a first spread data field (see page 6, paragraph [00033], lines 4-5, page 7, paragraph [00038], lines 5-6, and step 604 in Figure 6). The first data field is spread using a second channelization code producing a second spread data field (see page 6, paragraph [00033], lines 5-6, page 7, paragraph [00038], lines 5-6, and step 604 in Figure 6). Each channelization code is uniquely associated with one of a first and second antennas (see page 7, paragraph [00038], lines 5-6). An RF signal including the first and second spread data fields is transmitted over a first and second antenna (see page 7, paragraph [00038], line 8 and step 606 in Figure 6).

**Dependent Claim 14**

Claim 14 is directed to the method of claim 13, further including the steps of scrambling the first and second spread data fields by a scrambling code associated with the transmitter. (see page 7, paragraph [00038], lines 6-8 and step 605 in Figure 6).

**(6) GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL**

Claims 1-4, 13 and 14 stand rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-4, 13 and 14 of various copending Applications. The Appellant is willing to submit a terminal disclaimer to overcome the rejections over the claims of the Applications cited if the Application is otherwise allowable.

Claims 1-4, 13 and 14 also stand rejected under 35 U.S.C. §103(a) as being unpatentable over Dabak et al. (U.S. Ref. No. 6,775,260) in view of Rowitch et al. (U.S. Ref. No. 6,628,702).

**(7) ARGUMENT**

**Claims 1-4, 13 and 14 Meet the Requirements of 35 U.S.C. §103(a) as being patentable over Dabak et al. (U.S. Ref. No. 6,775,260) in view of Rowitch et al. (U.S. Ref. No. 6,628,702).**

In order to establish a *prima facie* case of obviousness, the Examiner must demonstrate there is a suggestion or motivation, either in the references themselves, or in the knowledge generally available to one of ordinary skill in the art, to modify the references or to combine the reference teachings. Furthermore, the prior art references must teach or suggest all of the claim features. The Examiner is not free to pick bits and pieces from the prior art and, with the hindsight benefit of the Applicant's disclosure, attempt to reconstruct the invention. Orthopedic Equipment Inc. v. U.S., 217 U.S.P.Q. 193, 199 (Fed. Cir. 1983).

As the Examiner agrees, the Dabak et al. reference does not disclose, teach, nor suggest anywhere the use of different channelization codes. Indeed, in figure 2, the Dabak discloses, *inter alia*, encoded symbols D11 and D21 undergoing the **same** "user specific code" C1. There is no teaching that any different channelization code is used on the symbols in the Dabak reference. And notably, there is no teaching in the Dabak reference of "each channelization code being uniquely associated with one of a first and second antennas".



Furthermore, the Rowitch reference merely makes a vague reference in the background section relating to "covering the data for each antenna with a particular channelization code," but does not disclose, teach or suggest that the particular code is different for each antenna or uniquely associated with each antenna. Indeed, the Dabak reference itself discloses a "particular" user specific code. However, it is the same code, not a different code, and particularly not a different code that is uniquely associated with each antenna, as the Examiner agrees. Therefore, the Rowitch reference fails to cure the deficiencies of the Dabak reference.

Appellant's previously presented independent claim 1, on the other hand, recites:

A method for a base station to transmit a data field of symbols comprising the steps of:  
generating a first data field of symbols;  
encoding said first data field producing a second data field having complex conjugates of the symbols of said first data field;  
spreading said first and second data fields, wherein said first data field is spread using a first channelization code and said second data field is spread using a second channelization code, each channelization code being uniquely associated with one of a first and second antennas; and  
transmitting an RF signal including said first and second spread data fields over a first and second antenna.

which is neither disclosed, taught nor suggested in the Dabak et al. reference or the Rowitch et al. reference. Accordingly, the Appellant's previously presented independent claim 1 is patentable over the Dabak and Rowitch references, whether taken alone or in combination with each other.

The Appellant's claims 2-4 depend, either directly or indirectly, from Appellant's patentable independent claim 1. Therefore, Appellant's dependent claims 2-4 are patentable for at least the same reasons as Appellant's patentable independent claim 1.

Appellant's previously presented independent claim 13 recites:

A method for a base station to transmit a data field of symbols including a transmitter, the method comprising the steps of:  
generating a first data field of symbols;  
spreading said first data field using a first channelization code

producing a first spread data field;  
spreading said first data field using a second channelization code  
producing a second spread data field, each channelization code being  
uniquely associated with one of a first and second antennas; and  
transmitting an RF signal including said first and second spread  
data fields over a first and second antenna.

which is neither disclosed, taught nor suggested in the Dabak et al. reference or the Rowitch et al. reference. Accordingly, the Appellant's previously presented independent claim 13 is patentable over the Dabak and Rowitch references, whether taken alone or in combination with each other.

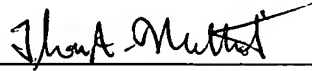
Additionally, claim 14 depends from Appellant's patentable independent claim 13, and is therefore patentable for at least the same reasons as Appellant's patentable independent claim 13.

**(8) CONCLUSION**

For the reasons stated above, pending claims 1-4, 13 and 14 meet the requirements of 35 U.S.C. §103(a) as patentable over the Dabak et al. and Rowitch et al. references, whether taken alone or in combination with one another. Accordingly, the final rejection of the claims under 35 U.S.C. §103(a) should be reversed.

Respectfully submitted,

Kim et al.

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TAM/yil

**(9) CLAIMS APPENDIX**

(PENDING CLAIMS OF U.S. PATENT APPLICATION NO. 10/071,903)

1. A method for a base station to transmit a data field of symbols comprising the steps of:

generating a first data field of symbols;

encoding said first data field producing a second data field having complex conjugates of the symbols of said first data field;

spreading said first and second data fields, wherein said first data field is spread using a first channelization code and said second data field is spread using a second channelization code, each channelization code being uniquely associated with one of a first and second antennas; and

transmitting an RF signal including said first and second spread data fields over a first and second antenna.

2. The method of claim 1 further comprising the step of scrambling said first and second spread data fields by a scrambling code associated with said base station.

3. The method of claim 2 wherein the symbols of said first data field of symbols are grouped into a first and second sub-data field.

4. The method of claim 3, wherein the symbols of said second data field of symbols are grouped into a third and fourth sub-data field, wherein said third sub-data

field is the negative complex conjugate of said second sub-data field and said fourth sub-data field is the complex conjugate of said first sub-data field.

13. A method for a base station to transmit a data field of symbols including a transmitter, the method comprising the steps of:

generating a first data field of symbols;

spreading said first data field using a first channelization code producing a first spread data field;

spreading said first data field using a second channelization code producing a second spread data field, each channelization code being uniquely associated with one of a first and second antennas; and

transmitting an RF signal including said first and second spread data fields over a first and second antenna.

14. The method of claim 13 further comprising the steps of scrambling said first and second spread data fields by a scrambling code associated with said transmitter.

**(10) EVIDENCE APPENDIX**

None.

**(11) RELATED PROCEEDINGS APPENDIX**

None.